

# Fastening Tools that Reduce Stooping

## The Problem

When working at floor or ground level, construction workers often use screw guns and other fastening tools that require stooping, bending, kneeling, or squatting for long periods of time. Working repeatedly in these positions can result in fatigue, pain, and injury.

Your lower back and knees are the areas at greatest risk of a muscle or joint injury when you stoop, bend, kneel, or squat for prolonged periods. Your risk is increased if you have to lift, push, or pull while stooping.

*Problem: Stooping to use screw gun*



*Solution: Autofeed stand-up screw gun*

## One Solution

Use an **auto-feed screw gun with an extension** that allows you to stand upright while working. Standing while you work keeps your spine and knees in a neutral position, minimizing strain and muscle fatigue. Many stand-up tools have adjustable lengths to fit workers of different heights. Stand-up screw guns that automatically feed the screws are available. Powder-actuated fastening tools (PATs) can be used with a stand-up handle provided by the manufacturer.

## How It Works

A **screw gun with an extension** can be used to secure subflooring, false floors, and decking; to construct concrete forms; and to do other wood-to-wood jobs. You can also



use it for drywall and some metal-to-metal work. Screws for these guns come on easy-loading, collated strips that are self-feeding. They load in seconds without requiring you to bend down, and the newer models have been improved so they do not jam like older models. There are models with fixed and telescoping extensions. Some use extensions that can be removed, allowing the screw gun to be used by itself for walls.

A **powder-actuated fastening tool** with a stand-up handle can be used to fasten metal track to concrete decks for interior steel framing, to install plywood onto concrete as a substrate for wood floors, to attach lumber to concrete and masonry, and to make steel-to-steel connections. These are a fast, reliable, efficient fastening method that can be used independent of weather conditions. They fire a .27-caliber explosive charge to drive their fasteners. The fasteners are made from hardened steel and have a knurled shaft to anchor them securely in the base material. Pre-drilling holes is not necessary. The driving depth can be adjusted for varying jobsite conditions. Hearing protection is advised when firing PATs.

## Benefits for the Worker and Employer

Workers who spend less time in a stooped position, or kneeling, have less chance of developing lower back and knee injuries. Productivity is also improved. Studies have shown that autofeed stand-up screw guns are about twice as fast at placing screws as traditional screw guns. Both stand-up screw guns and PAT tools with stand-up handles have improved since they were first introduced and are now more dependable and easier to use. Screws are more expensive than nails and may not be cost-effective for some jobs. However, using screws may improve the quality of construction on other jobs, such as installing subfloors.

## Approximate Cost

Stand-up screw guns are \$200–400. PAT fastening tools with stand-up handles are \$500–700. The PAT handles can also be purchased separately

## For More Information

- Products related to this solution are described at [www.cpwr.com/simple.html](http://www.cpwr.com/simple.html). Products also may be found on the internet using the following search terms:

*Stand-Up Screw Guns:* “screw gun extension”

*Powder-Actuated Tools with Stand-Up Handles:* (tool manufacturer) + “stand-up handle”

- Local contractor tool and equipment suppliers or rental companies may be another source of information on products.
- For general information on this solution, check [www.cpwrconstructionsolutions.org](http://www.cpwrconstructionsolutions.org) and [www.elcosh.org](http://www.elcosh.org).